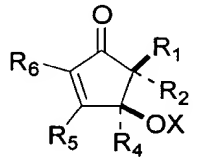
Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of claims in the application:

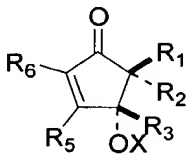
Listing of Claims:

1-36 (Canceled)

37. (Previously presented) A method for treating or preventing a disorder in a host, comprising administrating to a host in need thereof a therapeutically or prophylactically effective amount of a compound of the formula (a) or (b):



(a)



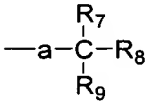
(b)

wherein: R_1 and R_2 are, independently, hydrogen, halogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted alkynyl, substituted or unsubstituted aminoalkyl, substituted or unsubstituted alkylthio, substituted or unsubstituted alykylsufinyl, substituted or unsubstituted alkylsulfonyl, substituted or unsubstituted carbocyclic aryl, substituted or unsubstituted aralkyl, or substituted or unsubstituted heteroaromatic or heteroalicyclic;

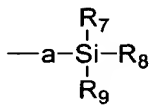
R_3 and R_4 are hydrogen;

R_5 and R_6 are, independently, hydrogen or halogen; and

X has the formula



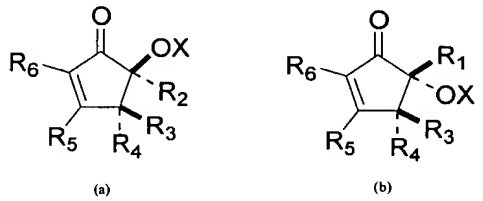
or



wherein: R_7, R_8, and R_9 are, independently, hydrogen, halogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted alkynyl, substituted or unsubstituted alkoxy, substituted or unsubstituted aminoalkyl, substituted or unsubstituted alkylthio, substituted or unsubstituted alykylsufinyl, substituted or unsubstituted alkylsulfonyl, substituted or unsubstituted carbocyclic aryl,

substituted or unsubstituted aralkyl, or substituted or unsubstituted heteroaromatic or heteroalicyclic, and a is absent or a linking group, optionally a hydrocarbyl linking group.

38. (Previously presented) A method for treating or preventing a disorder in a host, comprising administrating to a host in need thereof a therapeutically or prophylactically effective amount of a compound with the formula (a) or (b):

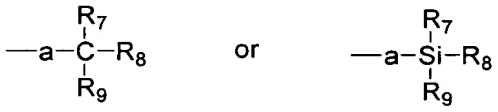


wherein: R_1 and R_2 are hydrogen;

R_3 and R_4 are, independently, hydrogen, halogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted alkynyl, substituted or unsubstituted aminoalkyl, substituted or unsubstituted alkylthio, substituted or unsubstituted alykylsufinyl, substituted or unsubstituted alkylsulfonyl, substituted or unsubstituted carbocyclic aryl, substituted or unsubstituted aralkyl, or substituted or unsubstituted heteroaromatic or heteroalicyclic; and

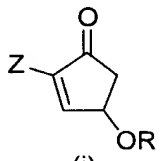
R_5 and R_6 are, independently, hydrogen or halogen; and

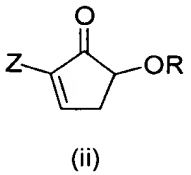
X has the formula

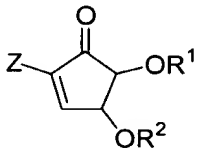


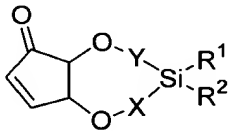
wherein: R_7, R_8, and R_9 are, independently, hydrogen, halogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted alkynyl, substituted or unsubstituted alkoxy, substituted or unsubstituted aminoalkyl, substituted or unsubstituted alkylthio, substituted or unsubstituted alykylsufinyl, substituted or unsubstituted alkylsulfonyl, substituted or unsubstituted carbocyclic aryl, substituted or unsubstituted aralkyl, or substituted or unsubstituted heteroaromatic or heteroalicyclic, and a is absent or a linking group, optionally a hydrocarbyl linking group.

39. (Previously presented) A method for treating or preventing a disorder in a host, comprising administrating to a host in need thereof a therapeutically or prophylactically effective amount of a compound of the formula (i), (ii), (iii), or (iv):


(i)


(ii)


(iii)


(iv)

wherein Z is hydrogen or a halogen, R is an optionally substituted hydrocarbyl group including up to 8 carbon atoms, or a moiety incorporating at least one heteroatom and up to 50 carbon atoms, at least one of R^1 and R^2 in formula (iii) incorporates one or more heteroatoms and up to 30 or 50 carbon atoms, at least one of R^1 and R^2 in formula (iv) is an optionally substituted hydrocarbyl group and X and Y are absent or are linking groups.

40. (Previously presented) A method for treating or preventing a disorder in a host, comprising administrating to said host in need thereof a therapeutically or prophylactically effective amount of an enantiomer of 4-tert-butyldimethylsilyloxy-cyclopent-2-en-1-one.

41. (Previously presented) The method of claim 40, wherein said enantiomer is R-(+)-4-tert-butyldimethylsilyloxy-cyclopent-2-en-1-one substantially free of the S-(-) enantiomer.

42. (Previously presented) The method of claim 40, wherein said enantiomer is S-(-)-4-tert-butyldimethylsilyloxy-cyclopent-2-en-1-one substantially free of the R-(+) enantiomer.

43. (Previously presented) The method of claim 41 or 42, wherein substantially free is at least 75%(w/w), at least 90%(w/w) or at least 99%(w/w) of the desired isomer based upon the total weight of 4-tert-butyldimethylsilyloxy-cyclopent-2-en-1-one.

44. (Previously presented) The method of claim 38, wherein R_3 and/or R_4 comprise no more than 7 carbon atoms.

45. (Previously presented) The method of claim 38, wherein a hydrocarbyl side chain is not present at positions R_3 and/or R_4.

46. (Previously presented) The method of claim 37 or 38, wherein X is an Si-containing group.

47. (Previously presented) The method of claim 37 or 38, wherein R_7, R_8 and R_9, are substituted alkyl, aryl or substituted aryl groups.

48. (Previously presented) The method of claim 37 or 38, wherein X is comprises at least 4 carbon atoms.

49. (Previously presented) The method of claim 45, wherein R_3 and/or R_4 is hydrogen.

50. (Previously presented) The method of claim 37 or 38, wherein the compound is an R-enantiomer.

51. (Previously presented) The method of claim 37 or 38, wherein the compound is an S-enantiomer.

52. (Previously presented) The method as in any one of claims 37-40, wherein said compound has a higher activity than cyclopent-2-en-1-one with respect to at least one of the following:

a) activating HSF;

b) inhibiting NF-κB;

c) inhibiting the replication of HSV-1; or

d) inhibiting the replication of Sendai virus.

53. (Previously presented) The method as in any one of claims 37-40, wherein said host is a mammal.

54. (Previously presented) The method of claim 53, wherein said mammal is a human.

55. (Previously presented) The method as in any one of claims 37-40, wherein said host is an aquatic organism.

56. (Previously presented) The method as in any one of claims 37-40, wherein said disorder is a disorder associated with NF-κB activation.

57. (Previously presented) The method as in any one of claims 37-40, wherein said disorder is a viral-mediated disorder.

58. (Previously presented) The method of claim 55, wherein said disorder is a viral-mediated disorder.

59. (Previously presented) The method as in any one of claims 37-40, wherein said disorder is a bacterial-mediated disorder.

60. (Previously presented) The method as in any one of claims 37-40, wherein said disorder is a disorder resulting from radiation.

61. (Previously presented) The method as in any one of claims 37-40, wherein said disorder is an inflammatory disorder.

62. (Previously presented) The method as in any one of claims 37-40, wherein said disorder is a disorder of the immune system.

63. (Previously presented) The method as in any one of claims 37-40, wherein said disorder is ischemia.

64. (Previously presented) The method as in any one of claims 37-40, wherein said disorder is arteriosclerosis.

65. (Previously presented) The method as in any one of claims 37-40, wherein said disorder is a disorder involving cell proliferation.

66. (Previously presented) The method of claims 65, wherein said disorder is cancer.

67. (Previously presented) The method as in any one of claims 37-40, wherein said disorder involving damage to or killing of cells.

68. (Previously presented) The method as in any one of claims 37-40, wherein said disorder is diabetes.

69. (Previously presented) The method as in any one of claims 37-40, wherein said disorder is a disorder involving calcium loss or deficiency.

70. (Previously presented) The method as in any one of claims 37-40, wherein the compound is administered orally, transdermally, topically, rectally, nasally, vaginally, or parenterally.

71. (Previously presented) The method as in any one of claims 37-40, wherein the amount is effective to inhibit NF-κB activation and to activate HSF.

72. (Previously presented) The method as in any one of claims 37-40, wherein the effective amount is about 10μg/kg to about 100mg/kg.

73. (Previously presented) The method as in any one of claims 37-40, wherein the effective amount is about 5mg/kg to about 100mg/kg.

74-78. (Canceled)

79. (New) The method of claim 56, wherein said disorder is a viral-mediated disorder, a bacterial-mediated disorder, a disorder arising from radiation, an inflammatory disorder, a disorder of the immune system, ischemia, arteriosclerosis, a disorder involving cell proliferation, a disorder involving cell damage or cell death, or a disorder involving calcium loss or deficiency.